

DEEP SEA SOUNDINGS.

Important Scientific Work Accomplished by the Officers of the Enterprise.

Description of the Apparatus for Deep Sea Measurements.

Fifty-four Casts Showing Depths Varying from 731 to 3,147 Fathoms in Mid-ocean.

A Range of Submarine Mountains 10,566 Feet High.

New York Telegram.

CAPE TOWN, June 10.—During the cruise of the United States corvette Enterprise from Norfolk, via the Cape de Verde Islands, to Cape Town, the officers of the ship, under the direction of Comdr. A. S. Barker, did considerable scientific work, the most important of which was under the charge of Lieut. G. G. Norris, the navigator of the ship, and consisted of a series of deep sea soundings, in number fifty-nine, the first being taken somewhere near mid ocean, in latitude 35 deg. 35 min. north, longitude 28 deg. 54 min. west, the depth reached being 2,854 fathoms. The apparatus used, though complicated, proved very efficient, and is known as Sigbee's improvement on Sir William Thompson's invention. The sounding line is made of No. 22 piano wire, and weighs about fourteen pounds to the mile. The cups for bringing up bottom specimens were Bolknap's No. 2, and the sinker used an eight-inch shot weighing sixty pounds, the sinker, of course, being detached as soon as the bottom was reached. When ready for use the apparatus was placed in the starboard gangway, and when about to take a cast the ship's motion was stopped and all sails furled, only enough steam being kept up to move the engines, the ship being kept head to wind, and backing or going ahead very slowly in order to keep directly over the wire. No difficulty was found in keeping the ship exactly in position.

In fact, when the deepest sounding was taken the ship sank in place slightly as it sounded in the 3,147 fathoms of water. The average time taken in making the casts was one hour, and they could only be taken in good weather and with smooth water. The second cast was made in latitude 31° 12' north, longitude 42° 35' west, when bottom was found at 2,163 fathoms, or about two and a half miles deep. The specimen of the bottom obtained was gray ooze, composed of sand and minute shells. The second sounding was taken fourteen days prior to the arrival of the Enterprise at the Cape de Verdes, the first having been taken January 16, two weeks after the ship left the United States. January 27 the third cast was made in 2,008 fathoms, but there was no change in the character of the bottom brought up, it being the same as in the first two. On January 28 the fourth cast was made in latitude 26 deg. 47' min. north, longitude 31 deg. 38' min. west, in a depth of 3,093 fathoms. The nature of the bottom entirely changed, being a massive form of white shells and sand. The amount of bottom brought to the surface by the apparatus at each cast would average about enough to fill a two-ounce phial, though sometimes when the bottom touched was very hard but very small specimens could be obtained. No more casts were taken until the Cape de Verdes Islands were reached, when after leaving Port Grande for Praya a fifth cast was taken in 1,471 fathoms. The bottom here was found to be gray sand mixed with shells. The last cast was taken about three miles from the Island of St. Sac, in 1,061 fathoms, the character of the bottom being the same. V. After leaving Porto Praya the regular work commenced, soundings being made at intervals of about 100 miles, commencing in latitude 12 deg. 10' min. north, longitude 23 deg. 45' min. west, and ending just off the Cape of Good Hope. The results of the number of casts are taken in February 11, 1883, in a depth of 2,742 fathoms, the specimens being the same as those found to the northward of the Cape de Verde—viz., gray ooze. The next cast was taken in latitude 9 deg. 28' min. north, longitude 24 deg. 08' min. west, in 2,668 fathoms. Bottom same as before. Cast No. 9 was taken in latitude 7 deg. 16' min. 22 sec. north, longitude 24 deg. 24' min. west, in 2,509 fathoms. Here the most remarkable specimen found during the course of the soundings was brought to light. It consisted of minute shells of every conceivable color, which almost exactly as if they had been taken out of a clam or oyster bed. No better evidence as to the existence of animal life at vast depths could possibly be desired than this, and subsequent soundings frequently brought up strong corroborative evidence on this point. These minute shells, after being exposed a few hours to the atmosphere, commenced to turn of light shades, and by the evening were entirely white, with slightly appearing.

These kept in the atmosphere retained their color several days, only losing it very gradually. Cast No. 10 was taken in 2,307 fathoms, and there was no great change in the nature of the bottom. Cast No. 11, made in latitude 3 deg. 29' min. north, longitude 24 deg. 46' min. west, in 2,329 fathoms, showed a decided change in the bottom, the specimen obtained being a very dark greenish color. Cast Nos. 12 and 13 showed the depth to be shoaling gradually, 2,213 and 1,919 fathoms respectively, the bottom of gray ooze. At the next cast, No. 14, 2,627 fathoms was reached, in latitude 1 deg. 33' min. south, longitude 27 deg. 44' min. west.

Here the character of the bottom changed to a iron mud. From cast No. 15 to No. 19, depths varying from 2,930 to 2,500 fathoms were taken, and the same bottom soil brought up. Cast No. 20, in latitude 15 deg. 20' min. south, longitude 33 deg. 57' min. west, about 500 miles from the coast of Brazil, another change of bottom was noted, the specimens showing it to be a yellowish brown ooze. This character continued until cast No. 26, when it again altered to a dark brown, sticky mud, found at 3,090 fathoms. From the latitude of Bahia to Trinidad Island, a distance of 500 miles, the bottom of the ocean seemed very level, there being very slight changes in the depth reached, Cast No. 27, in latitude 26 deg. 53' min. south, longitude 28 deg. 9 min. west, a depth of 2,008 fathoms was reached and, and chocolate colored, sticky mud was found. Cast No. 28 was the deepest found—3,147 fathoms—and was in latitude 26 deg. 56' min. south, longitude 27 deg. 44' min. west, and was made March 9. Thus, at this place the depth of the sea is about three miles and two-thirds. It is as well to mention that we engaged in deep sea sounding in the Pacific Ocean in 3,200 fathoms, off Callao, Peru, then of the United States steel ship *Neris*, then of the United States coast ship *Tuscarora*, made the deepest cast ever taken, finding the depth of water to be 4,656 fathoms. The sounding was made near the Kurile islands, near the entrance to Bering's sea. About 100 miles from cast No. 28 cast No. 29 was taken in 2,288 fathoms, showing a difference of 5,154 feet, or nearly a mile difference in depth in a distance of only 100 miles, a very hard bottom was found.

From cast No. 29 to cast No. 35, depths ranging from 2,330 fathoms to 2,288 fathoms, the character of the bottom was about the same—light brown mud mixed with small shells. Cast No. 31, however, showed some difference, a piece of lava being brought up showing the volcanic formation. Cast No. 36, latitude 30 deg. 35' min. 02 sec. north, longitude 12 deg. 49' min. 03 sec. west, the bottom was found at 1,700 fathoms, sounding suddenly. No. 37, in latitude 31 deg. 12' min. 06 sec. south, longitude 26 deg. 58' min. 02 sec. west, the bottom was found at 1,937 fathoms. Cast No. 38, latitude 31 deg. 35' min. 42 sec. west, 1,804 fathoms. The character of bottom at these shoal depths to cast No. 39, a hard black mud. Cast No. 39 to cast No. 40, latitude 32 deg. 23' min. 08 sec. west, longitude 12 deg. 32' min. 52 sec. west, depth ranging from 1,650 fathoms to 1,331 fathoms, the same character of bottom, white sand. Cast No. 41, in latitude 32 deg. 30' min. 08 sec. west, longitude 12 deg. 32' min. 52 sec. west, depth ranging from 1,650 fathoms to 1,331 fathoms, the same character of bottom, white sand. Cast No. 42, in latitude 32 deg. 30' min. 08 sec. west, longitude 12 deg. 32' min. 52 sec. west, depth ranging from 1,650 fathoms to 1,331 fathoms, the same character of bottom, white sand.

The practice ships *Delta* and *Constellation* arrived at Portland, N. H. last evening.

The President's Proposed Vacation.

The date of the president's departure from Washington on his trip to the Yellowstone park has not yet been fixed. It seems to be settled, however, that he will leave here about August 1, and will attend the opening of the Louisville exposition before going further west. The arrangements for the trip are to be made by Lieutenant-General Sheridan. Secretary Lincoln will accompany the party, and it is said that Senator Wade Hampton will be one of the party.

The President has postponed his proposed trip on the steamer *Despatch* to Newport and Cape May until the end of the week, and may perhaps abandon it altogether. It is certain he will not start on his voyage in the *Despatch* before Friday, as he has made an appointment for that day at the white house with a member of the cabinet.

PROVIDENCE, July 10.—Information has been received at Newport that the United States steamer *Despatch*, with President Arthur on board, will arrive there on Thursday next. The President's stay is expected to be brief.

Plans for the Steel Cruisers.

Commodore Wilson, chief of the bureau of construction, Navy department, yesterday submitted the plans for the proposed cruisers Boston and Atlanta to the naval advisory board. Plans for the largest cruiser, the Boston, will be submitted on Monday next.

The plans for the dashing boat *Dolphin*, which were prepared by the naval advisory board, have been ready for some days. It is expected that the contracts for the construction of these vessels will be signed by Secretary Chandler as soon as he returns.

An Infected Vessel on Her Way to New York.

The surgeon general of the marine hospital service has been informed that the steamer City of Alexandria has left Vera Cruz, bound for New York, and that she left three cases of yellow fever at Havana on Saturday last. The health authorities at New York have been informed of the approach of the infected vessel.

Improved Mail Service.

It has been decided to put a second daily mail service on the Hanibal and St. Joseph railway, between Quincy, Ill., and Hanibal, Mo. This will make a continuous double daily railway mail service from Chicago to Denver, Col., via Kansas City. An order establishing the additional service will be issued in a few days.

Cabinet Meeting.

An informal meeting of the cabinet was held yesterday afternoon, at which were present Secretary Foote, Secretary Lincoln, Secretary Teller, and Postmaster General Gresham. It is understood that the session was mainly devoted to the consideration of routine business of the departments represented, requiring immediate attention.

Much Ado About Nothing.

CLEVELAND, July 16.—Two parties of Germans, at a picnic yesterday in Newburg, indulged in a free fight, grossly exaggerated accounts of which have been telegraphed from here. The barroom furniture and glassware of the Willow house were demolished, but nobody was seriously wounded. The row began over trivial circumstances, one man knocking another's beer glass from the counter. The two factions of picnickers took sides, and belabored each other until some started an alarm that the police were coming, when the fighters fled.

Pennsylvania Republicans.

HARRISBURG, July 16.—Senator Thomas V. Cooper was to-day selected as chairman of the republican state committee.

Business Chancery.

WILL EXCHANGE IS KARAT, GOLD, HUNTINGTON, W. Va., worth \$100, for \$100 in gold coin for no inb. Address BUNNIN, Republican Office.

LIBERAL RATE OF INTEREST ALLOWED ON TIME DEPOSITS. United States Bonds bought and sold; also Gold and Silver Bars, etc.

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